STANDARD CHLORINE CHEMICAL CO. INC. SUPERFUND SITE
MONTHLY PROGRESS REPORT
JANUARY 2014

I. Actions Completed During the Reporting Period (January 2014)

Preparation of the Site Characterization Summary Report Addendum continued.

EPA provided comments on the draft Community Involvement Plan (CIP) which was submitted to EPA on December 20, 2013. Revision of the CIP to incorporate EPA comments was initiated.

II. Results of Sampling and Tests and Data Received by Respondents

Results for the samples submitted for analysis were received from the laboratory. Compilation and quality assurance/quality control review and validation of the data were ongoing at the end of January. In accordance with the project schedule presented in the RI/FFS Work Plan, submittal of the validated data to the EPA was made on February 11, 2013.

III. Work Planned for the Next Two Months (February and March 2014)

Monthly progress reports will be prepared and submitted to EPA.

Implementation of the RI/FFS Work Plan will continue.

Data quality and validation reviews will be completed. Consistent with the project schedule included in the RI/FFS Workplan, validated data will be submitted to EPA on or before February 11, 2014.

Preparation of the Site Characterization Summary Report (SCSR) Addendum will continue. Consistent with the project schedule included in the RI/FFS Workplan, the SCSR Addendum will be submitted to EPA and NJDEP on or before March 28, 2014.

Implementation of the Cultural Resources Survey Work Plan will be initiated with the selection of Langan as our consultant for this task.

IV. Problems Encountered/Anticipated Delays

No problems were encountered. No delays are anticipated.

V. Operations and Maintenance Information

Routine operations and maintenance activities were completed. A summary of operations and maintenance activities are provided on a quarterly basis. The summary for the fourth quarter of 2013 is included as Appendix A.

1.0 DESCRIPTION OF ACTIVITIES COMPLETED

1.1 HYDRAULIC CONTROL TREATMENT SYSTEM (HCTS)

- Continued routine HCTS operation, monitoring, inspection and reporting efforts as summarized below:
  - Average monthly flows for October, November and December 2013 were 8.3 gpm, 11.2 gpm and 20.4 gpm, respectively.
  - The total volume of water treated this reporting period was 1,773,582 gallons.
  - Monthly NJPDES sample collection pursuant to NJ Permit No. NJ0155438 was completed. There were no exceedences of permit monitored constituents noted during this period. Whole Effluent Toxicity (WET) via Method 1002.0 (Mysidopsis Bahia), was reported at >100% reproduction.
  - Hydraulic Control Wells (HCW) are operating with the exception of HCWU-2, HCWU-10, HCWU-12, HCWU-13 and HCWU-15 which, when inspected, were found to have faulty pump motors during the latter part of October 2013. Additional groundwater pumps and hardware were ordered for these wells and all were brought back online December 2, 2013. During routine well assessment efforts conducted in December 2013, hydraulic control well HCWU-24 was found to have a short to ground in the electrical supply line running between the HCTS building and the well vault. Power leads from DRWL-11 were used to bring HCWU-24 online on January 2, 2014. Preventative maintenance of the HC groundwater recovery well network hardware continues to be conducted as needed.
  - Passive DNAPL recovery efforts continued. Over the second half of 2013 DNAPL recovery rates appear to have diminished. As a result, a stepped approach to bringing groundwater recovery pumps at select DRWs online is being evaluated.
  - Piezometer gauging data collected during the reporting period is provided in Table 1. Despite infiltrating precipitation, water level data trends are favorable in general and continue to indicate progress to achieving sustained inward gradients across the barrier wall. However, groundwater elevation data recorded for December 2013 shows a departure from the historical trend toward an average inward gradient at the site. December 2013 groundwater elevation data are believed to be representative of timing of the gauging event

in relation to increased precipitation and rapid snow melt occurring in December. A graph showing historical groundwater gradient data is provided as Figure 1 of this submittal.

1.2 DNAPL RECOVERY

Passive DNAPL recovery efforts for the fourth quarter of 2013 produced 192 gallons of DNAPL from DRWL-1, DRWL-9, DRWL-10 and DRWL-11 combined. A total of 3,956 gallons of DNAPL have been recovered from the DNAPL recovery well network since January 2012. Total DNAPL recovery to date is provided in the summary table below.

Well ID	October 2013 DNAPL Recovery (gal)	November 2013 DNAPL Recovery (gal)	December 2013 DNAPL Recovery (gal)	Total DNAPL Recovered (gal)
DRWL-9	NR	NR	37	856
DRWL-11	55	NR	46	2,468
DRWL-5	NR	NR	NR	265
DRWL-7	NR	NR	NR	50
DRWL-1	54	NR	NR	262
DRWL-10	NR	NR	NR	55

- DNAPL Recovery Well Gauging data for this period are provided in Table 2.

1.3 NON-HCTS INSPECTIONS

- Continued post-construction and New Jersey Meadowlands Commission inspections.
  - FTS has confirmed with NJMC Project Engineer (Ms. Fawzia Shapiro, P.E.), that obligations for weekly inspections of vegetative cover and storm water control features across the SCCC site would be reduced to a quarterly frequency as well as following qualifying rain events. Efforts will continue to be conducted pursuant to and in accordance with the *Operation and Maintenance Manual, Interim Response Action, SCCC Site and Diamond Site., Zoning Certificate/Occupancy Certificate Application, New Jersey Meadowlands Commission* – Key Environmental, Inc., January 2010 –Revised March 23, 2010).

1.4 ADDITIONAL COMPLETED EFFORTS

- An above-ground electrical junction box was installed between October 1st and 11th to replace PB-05 for safe access to wire splices between the HCTS building and various HC well vaults. Above-ground junction boxes may be installed at other locations if needed.
- Cathodic protection system Steel Sheet Pile Wall joint welding efforts were completed during the week of November 4, 2013.

2.0 PROJECTED FUTURE ACTIVITIES

2.1 HCTS RELATED EFFORTS

- Continued routine HCTS operations, monitoring and maintenance.
- FTS recommends that the T-PH-01 flash mix system modification be formalized with the NJDEP given the success of the testing to date. This modification routes all influent groundwater streams into T-PH-01 which now serves as the flash mix tank for the CrVI reduction treatment process. This process modification has been implemented to manage additional volume of recovered groundwater that exhibits CrVI at levels necessitating reduction to achieve discharge permit limits. By directing total recovered groundwater flow to the T-PH-01 tank, gravity flow through the CrVI reduction process is able to maintain design flow rates, thus increasing the total system run time and total gallons treated.
- Continue dewatering of electrical pull boxes to assess and repair electrical runs from the HCTS building to individual HC and DR well control panels.
- Preparation to initiate installation of an auxiliary underground conduit between the HCTS building and the newly installed above ground electrical junction box (proximal to HCWU-18). This is necessary to allow for installation of new power supply and control wiring required to bring DNAPL recovery well groundwater pumps online. Installation of the subgrade 3-inch conduit is anticipated to occur in early spring 2014.
- The cathodic protection system final install and startup was completed during the week of January 13, 2014 without issues. Routine inspections and maintenance efforts have commenced in accordance with the recommendations of a qualified NAEC Certified Corrosion Specialist.

- Biennial Hazardous Waste Report and Annual CERCLA Off-Site Notification Request Forms for HCTS operations derived waste were submitted in January 2014.

2.2 NON-HCTS RELATED EFFORTS

- Routine Non-HCTS (consolidation area and IRM surface covers) inspections and maintenance will continue.
- Soil erosion areas and re-vegetation issues will be addressed, as necessary.
- Quarterly inspections of the surface cover systems and repair (as necessary) will continue.
- Vegetative ground cover will be maintained and scheduled mowing of the various vegetative cover areas will be conducted.
- Bulged asphalt area repairs are scheduled to commence upon the onset of favorable weather.
- Herbicide treatments, as part of the invasive species abatement program for the freshwater wetland area, will continue.
- The second of five Annual Wetland Mitigation Reports was submitted in January 2014.
- Areas of freshwater wetland on the SCCC site which previously were treated with herbicide to eradicate invasive phragmites are scheduled for replanting and goose fence replacement beginning in May of 2014.

TABLES

Table 1

Standard Chlorine Chemical Company
4th Quarter 2013 Progress Report

Piezometer Gauging Data Summary

Well ID	Oct-13		Nov-13		Dec-13	
	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)	Depth to Water (ft-TOC)	Total Depth (ft- TOC)
HC-PZ-1U	7.64	16.68	8.22	16.73	8.48	16.72
HC-PZ-2U	8.15	16.10	8.34	16.10	8.05	16.09
HC-PZ-3U	9.69	14.99	9.85	15.01	7.59	15.00
HC-PZ-4U	8.47	14.64	8.72	14.65	6.35	14.64
HC-PZ-6U	4.04	9.45	4.30	9.45	1.12	9.43
HC-PZ-7U	3.86	8.95	3.70	8.85	0.62	8.94
HC-PZ-8U	5.29	11.90	6.22	11.91	3.24	11.90
HC-PZ-9U	5.94	12.25	5.99	12.21	6.54	12.22
HC-PZ-10U	4.88	9.49	5.35	9.51	4.06	9.50
HC-PZ-11U	5.13	9.80	5.26	9.80	4.75	9.80
HC-PZ-12U	3.86	8.43	4.72	8.45	2.90	8.43
HC-PZ-13U	3.58	8.42	4.09	8.40	2.42	8.40
HC-PZ-14U	4.18	10.05	4.56	10.07	2.03	10.05
HC-PZ-15U	6.69	11.75	7.03	11.72	5.47	11.73
HC-PZ-1L	8.87	25.10	9.38	25.11	8.00	25.10
HC-PZ-2L	9.53	25.20	10.33	24.48	9.71	24.15
HC-PZ-3L	6.88	23.50	7.37	23.52	7.25	23.53
HC-PZ-4L	6.85	20.55	7.52	20.60	6.73	20.54
HC-PZ-6L	3.36	16.79	3.59	16.80	3.56	16.85
HC-PZ-7L	1.55	16.97	2.77	17.02	1.25	16.98
HC-PZ-8L	5.58	21.50	5.90	21.48	3.96	21.48
HC-PZ-9L	5.73	21.00	6.08	21.00	4.57	21.00
HC-PZ-10L	4.00	18.76	4.34	18.78	3.68	18.76
HC-PZ-11L	5.63	19.10	5.62	19.07	5.44	19.10
HC-PZ-12L	3.10	15.79	3.55	15.77	3.09	15.77
HC-PZ-13L	3.54	16.20	4.06	16.25	3.33	16.25
HZ-PZ-14L	4.01	18.86	4.57	18.90	2.82	18.90
SC-MW-16L	5.26	19.80	6.05	19.80	6.15	19.81

Table 2

Standard Chlorine Chemical Company
4th Quarter 2013 Progress Report
DNAPL Well Gauging Data

Recovery Well ID	Oct-13				Nov-13				Dec-13			
	Depth to Water (ft TOC)	Depth to Product (ft TOC)	Product Thickness (ft)	Total Depth (ft TOC)	Depth to Water (ft TOC)	Depth to Product (ft TOC)	Product Thickness (ft)	Total Depth (ft TOC)	Depth to Water (ft TOC)	Depth to Product (ft TOC)	Product Thickness (ft)	Total Depth (ft TOC)
DRWU-1	2.18	NP	NA	10.68	2.73	NP	NA	10.68	2.16	NP	NA	10.68
DRWU-2	2.65	NP	NA	11.78	3.17	NP	NA	11.79	2.66	NP	NA	11.79
DRWU-3	12.26	22.35	Trace	22.35	12.66	22.33	0.02	22.35	11.83	22.33	0.02	22.35
DRWU-4	1.61	NP	NA	12.10	2.20	NP	NA	12.12	1.61	NP	NA	12.12
DRWU-5	0.89	NP	Trace	8.80	1.37	NP	NA	8.82	0.96	NP	NA	8.82
DRWL-1	3.75	27.58	4.32	31.90	4.60	30.95	0.95	31.90	3.71	30.58	1.32	31.90
DRWL-2	0.67	27.00	Trace	27.00	1.26	26.97	Trace	26.97	0.61	26.97	Trace	26.97
DRWL-3	1.34	28.75	0.10	28.85	1.96	28.77	0.10	28.87	0.88	28.77	0.10	28.87
DRWL-4	2.98	30.30	0.20	30.50	2.83	30.30	0.20	30.50	2.34	30.30	0.20	30.50
DRWL-5	2.20	27.66	1.99	29.65	2.97	26.47	3.18	29.65	1.72	25.40	4.25	29.65
DRWL-6	14.42	39.95	0.85	40.80	15.12	39.90	0.90	40.80	14.03	39.80	1.00	40.80
DRWL-7	0.54	26.50	0.65	27.15	1.18	26.45	0.70	27.15	-1.06	26.45	0.70	27.15
DRWL-8	0.98	NP	NA	28.65	1.53	NP	NA	28.65	-0.25	NP	NA	28.65
DRWL-9	2.21	26.88	1.42	28.30	2.49	25.72	2.58	28.30	1.32	27.10	1.20	28.30
DRWL-10	4.44	28.27	2.33	30.60	5.02	28.20	2.40	30.60	4.33	27.60	3.00	30.60
DRWL-11	7.18	28.95	4.20	33.15	7.65	26.52	6.63	33.15	5.62	24.25	8.90	33.15

Notes:

" - " indicates measurement of water level in well vault above recovery well TOC

NP indicates no DNAPL encountered during gauging efforts

NA indicates not applicable

FIGURE

Figure 1
Standard Chlorine Chemical Company
4th Quarter 2013 Progress Report